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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,019	02/25/2002	Edward G. Tiedemann JR.	010475	8463
23696	7590	08/18/2006	EXAMINER	
QUALCOMM INCORPORATED 5775 MOREHOUSE DR. SAN DIEGO, CA 92121			HALIYUR, VENKATESH N	
			ART UNIT	PAPER NUMBER
			2616	

DATE MAILED: 08/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/084,019	TIEDEMANN ET AL.	
	Examiner	Art Unit	
	Venkatesh Haliyur	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Amendment

1. The amendment filed on 6/6/2006 has been considered but is ineffective to overcome Ponnekanti reference. Rejections follow.
2. Claims 1 – 19 are pending in the application.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Ponnekanti [US Pub: 2002/0150065].

Regarding claim 1, Ponnekanti disclosed "Communication Systems" and a method for wireless communication system comprising, a quality measurement unit **(items 262, 264 of Fig 11)** for iteratively measuring link quality of a communication link **(measured over several measurement periods, para 0218)**, a quality message processing unit **(item 266 of Fig 11)** for generating a quality message and differential indicators **(items 262, 264 of Fig 11)** based on the measured link quality and for generating a parity check **(BER, para 0218)** corresponding to the quality message **(para 0219)**, and a differential analyzer **(item 362 of Fig 16)** for determining changes in the measured link quality **[Figs 10-16, para 0008-0119, para 02075-0224]**.

Regarding claims 2,6, Ponnekanti disclosed that the link quality is measured as

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carrier to interference (**SINR, signal to noise interference**) of a received signal and each quality message includes carrier to interference information of a received signal at a receiver (**item 256 of Fig 11**) [**para 0218–0219**].

Regarding claim 3, Ponnekanti disclosed that the quality measurement unit (**items 262,264 of Fig 11**) generates a quality metric (**any suitable measure of quality, BER, RSS etc. para 0218**), and wherein the remote station applies a sector cover to the quality metric (**base station sectors are applied, para 0139-0141**) [**para 0216–0224**].

Regarding claims 4,5, Ponnekanti disclosed that the communication system comprises generating quality messages and differential indicators at a first frequency (**channels identified by its frequency, para 0148**), the quality messages providing information on the quality of a communication link (**communication path**), and generating a parity check for each of the quality messages (**encoding BER in quality message, para 0158,0218**) and generating differential indicators at a second frequency (**para 219**), the differential indicators indicating changes in the quality of the communication link (**bit indicating beam fading**), wherein the second frequency is greater than the first frequency [**para 0216-0224**].

Regarding claim 7, Ponnekanti disclosed a feedback indicator bit (**FBI bits**) length is one or more bits in the communication system [**para 0149-0150**].

Regarding claim 8-11, Ponnekanti disclosed that communication system comprises estimating a channel condition over a first time window (**based on history or average measurement periods, time slots**), comparing the estimated channel

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condition to a first threshold value (**para 0021-0022**), determining a transmission rate for transmission of quality messages (**para 0224-232**) and differential indicators based on the comparison, transmitting quality messages at the transmission rate and transmitting differential indicators independently of quality messages (**para 0031-0039**) and the first time window is dynamically adjusted based on operation of the system (**para 0016-0017**) and calculating an average channel condition and calculating variance of the channel condition (**para 0218**) [**para 0205-0233**].

Regarding claim 12, Ponnekanti disclosed a base station comprising, receive circuitry operative to receive feedback signals (**para 0090-0114**) including a quality message with a parity check, and differential indicators (**items 262, 264 of Fig 11**), the quality message periodically providing a quality metric of a forward link, wherein the indicators track the quality metric between successive quality messages (**encoding BER in quality message, para 0158,0218-0219**), a memory storage unit operative to store a quality message received on the feedback signal (**para 0118**), and a differential analyzer (**item 362 of Fig 16**) to update the quality message stored in the memory storage unit in response to the differential indicators and the parity check [**Figs 10-16, para 0008-0119, para 02075-0224**].

Regarding claim 13-14,18-19 Ponnekanti disclosed that the communication system comprises processing unit, operative for executing computer-readable instructions, and a memory storage unit adapted to store a plurality of computer-readable instructions for (**para 0118**), generating quality messages and differential indicators at a first frequency (**channels identified by its frequency, para 0148**), the quality messages providing

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information on the quality of a communication link wherein the differential indicators track a quality metric between successive quality messages (**measured over several measurement periods**), and generating a parity check (BER) for each of the quality messages and further disclosed a method for computer-readable instructions are further adapted for generating differential indicators at a second frequency (**para 218-219**), the differential indicators indicating changes in the quality of the communication link (**bit indicating beam fading**), wherein the second frequency is greater than the first frequency [**Figs 10-16, para 0216-0224**].

Regarding claim 15-17, Ponnekanti disclosed that the communication system comprising processing unit, operative for executing computer-readable instructions, and a memory storage unit adapted to store a plurality of computer-readable instructions (**para 0118**) for, estimating a channel condition over a first time window (**based on history or average measurement periods, time slots**), comparing the estimated channel condition to a first threshold value (**para 0021-0022**), determining a transmission rate for transmission of quality messages and differential indicators based on the comparison, transmitting quality messages at the transmission rate and transmitting differential indicators independently of quality messages and assigning a weight to each of the plurality of carriers (**weight setter, item 302 of Fig 15**), wherein the average channel condition is a weighted average (**para 0031-0039**) [**Figs 11-16, para 0205-0233, para 0249-256**].

Response to Arguments

4. Applicant's argument, see remarks, for claims 1-11,15-19 files on 06/06/2006 have been fully considered but they are not persuasive.

a. Examiner respectfully traverses the applicant's arguments for claim rejections based on 35 USC 102(e) for claims 1-11,15-19 to Ponnekanti reference as follows,

i. With respect to applicant's argument (see remarks, pages 8-9,25-26) that Ponnekanti fail to teach "a quality measurement unit for iteratively measuring link quality of a communication link; a quality message processing unit for generating a quality message and multiple differential indicators based on the measured link quality and iteratively measuring **(measured over several measurement periods, see para 0218)** link quality of a communication link, a quality message generating a quality message based on the measured link quality and for generating a parity check (BER) corresponding to the quality message, and a differential analyzer for determined changes in the measured quality, examiner traverses applicants to Figures 11 & 12 items 262 & 264 **(multiple beam quality estimators and indicators)** and item 266 of Fig 11, where Ponnekanti disclosed in paragraphs 00216-0223 how each beam quality indicators produces the measure of the quality of the signals transmitted via corresponding transmission paths which are then fed into a feedback signal generator for multiplexing and transmitting the signal. Ponnekanti

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further disclosed parts of the base station and mobile unit of the above claim limitations in paragraphs 00249-0256, Figures 15 and 16.

5. Applicant's argument, see remarks, filed on 06/06/2006 with respect to claims 12-14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Venkatesh Haliyur whose telephone number is 571-272-8616. The examiner can normally be reached on Monday thru Friday 8:30AM to 4:30PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Patent Examiner
Venkatesh Haliyur

uh
08/08/06


RICKY Q. NGO
SUPERVISORY PATENT EXAMINER